

Fisiopatologia, diagnosi e trattamento

JAMA 11.07.2020

Segnaliamo questa utile review che sintetizza in modo efficace le conoscenze scientifiche correnti, che possono essere così riassunte: 1) l'infezione può essere asintomatica, paucisintomatica e sintomatica: la fase di inizio dei sintomi è 5-11 giorni dal contagio; 2) sintomi e segni sono quelli noti; 3) la diagnosi si fa con il tampone che ha una sensibilità variabile e quindi presenta una percentuale di falsi negativi che può variare, a seconda della tecnica usata, dal 20 fino al 67% dei soggetti testati; 4) il 5% delle persone con COVID sviluppa la forma severa della malattia e il 20% degli ospedalizzati ha bisogno di cure intensive, il 75% di ossigenazione; 5) durante la fase alta del contagio il 40% degli ospedalizzati muore; 6) la terapia con una maggiore, sia pur tutta da confermare, efficacia è il desametasone (cortisone). Ci sono diversi trial in corso su farmaci antivirali immunomodulatori e circa 120 studi sul vaccino. 7) in assenza di un vaccino i metodi primari per ridurre la diffusione del contagio sono la mascherina, il distanziamento fisico e il tracciamento dei contatti. Anticorpi monoclonali e globuline iperimmuni possono essere una strategia preventiva da aggiungere alle precedenti.

ABSTRACT ORIGINALE

Importance The coronavirus disease 2019 (COVID-19) pandemic, due to the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has caused a worldwide sudden and substantial increase in hospitalizations for pneumonia with multiorgan disease. This review discusses current evidence regarding the pathophysiology, transmission, diagnosis, and management of COVID-19.

Observations SARS-CoV-2 is spread primarily via respiratory droplets during close face-to-face contact. Infection can be spread by asymptomatic, presymptomatic, and symptomatic carriers. The average time from exposure to symptom onset is 5 days, and 97.5% of people who develop symptoms do so within 11.5 days. The most common symptoms are fever, dry cough, and shortness of breath. Radiographic and laboratory abnormalities, such as lymphopenia and elevated lactate dehydrogenase, are common, but nonspecific. **Diagnosis is made by detection of SARS-CoV-2 via reverse transcription polymerase chain reaction testing, although false-negative test results may occur in up to 20% to 67% of patients;** however, this is dependent on the quality and timing of testing. Manifestations of COVID-19 include asymptomatic carriers and fulminant disease characterized by sepsis and acute respiratory failure. **Approximately 5% of patients with COVID-19, and 20% of those hospitalized, experience severe symptoms necessitating intensive care. More than 75% of patients hospitalized with COVID-19 require supplemental oxygen.** Treatment for individuals with COVID-19 includes best practices for supportive management of acute hypoxic respiratory failure. Emerging data indicate that **dexamethasone therapy reduces** 28-day mortality in patients requiring supplemental oxygen compared with usual care (21.6% vs 24.6%; age-adjusted rate ratio, 0.83 [95% CI, 0.74-0.92]) and that **remdesivir improves time to recovery** (hospital discharge or no supplemental oxygen requirement) from 15 to 11 days. In a randomized trial of 103 patients with COVID-19, convalescent plasma did not shorten time to recovery. **Ongoing trials** are testing antiviral therapies, immune modulators, and anticoagulants. The case-fatality rate for COVID-19 varies markedly by age, ranging from

0.3 deaths per 1000 cases among patients aged 5 to 17 years to 304.9 deaths per 1000 cases among patients aged 85 years or older in the US. **Among patients hospitalized in the intensive care unit, the case fatality is up to 40%. At least 120 SARS-CoV-2 vaccines are under development. Until an effective vaccine is available, the primary methods to reduce spread are face masks, social distancing, and contact tracing. Monoclonal antibodies and hyperimmune globulin may provide additional preventive strategies.**

Conclusions and Relevance As of July 1, 2020, more than 10 million people worldwide had been infected with SARS-CoV-2. Many aspects of transmission, infection, and treatment remain unclear. Advances in prevention and effective management of COVID-19 will require basic and clinical investigation and public health and clinical interventions.

Wiersinga WJ, Rhodes A, Cheng AC, Peacock SJ, Prescott HC. Pathophysiology, Transmission, Diagnosis, and Treatment of Coronavirus Disease 2019 (COVID-19): A Review [published online ahead of print, 2020 Jul 10]. *JAMA*. 2020;10.1001/jama.2020.12839. doi:10.1001/jama.2020.12839